



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0346; Directorate Identifier 2014-NM-010-AD]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain The Boeing Company Model 737-100, -200, -200C, -300, -400, and -500 series airplanes. This proposed AD was prompted by reports of cracks in fuselage frames, and a report of a missing strap that was not installed on a fuselage frame during production. This proposed AD would require an inspection to determine if the strap adjacent to a certain stringer is installed, and repair if missing; repetitive inspections of the frame for cracking or a severed frame web; and related investigative and corrective actions if necessary. This proposed AD also provides optional actions to terminate certain repetitive inspections. We are proposing this AD to detect and correct missing fuselage frame straps and frame cracking that can result in severed frames. Continued operation of the airplane with multiple adjacent severed frames, or the combination of a severed frame and fuselage skin chemical mill cracks, can result in uncontrolled decompression of the airplane.

DATES: We must receive comments on this proposed AD by **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0346; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the **ADDRESSES** section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Alan Pohl, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6450; fax: 425-917-6590; email: alan.pohl@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the **ADDRESSES** section. Include “Docket No. FAA-2014-0346; Directorate Identifier 2014-NM-010-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We have received reports of fuselage frame cracking, and a report of a missing strap that was not installed on a fuselage frame during production. One report was a crack in the frame at station 328 and a crack that severed the frame at station 360 on the right side of an airplane that had 59,756 total flight cycles. The frame web and the failsafe chord were completely severed.

We have received ten reports of cracks in the frames at station 328 between stringers S-20R and S-21R on Model 737-200, 737-300, and 737-500 series airplanes that had accumulated between 43,581 and 73,655 total flight cycles. These cracks were in the frame web at an open tool hole, in the frame web at the end fastener in the inner chord, and in the frame web notch. The cracks were from 0.3 inch to 3.0 inches long.

We have also received 14 reports of cracks in the frames at station 360 between stringers S-19R and S-21R on Model 737-200 and 737-300 series airplanes that had accumulated between 42,183 and 66,588 total flight cycles. These cracks were in the frame web at an open tool hole, in the frame web at an insulation blanket stud hole, in the frame web at an end fastener in the doubler, and in the inner flange at the end fastener in the doubler. The cracks were from 2.5 inches long to cracks that severed the frame web and fail-safe chord.

We have received a report of three cracks in the frame at station 380 between stringers S-18R and S-20R on a Model 737-300 series airplane with 32,218 total flight cycles. Cracks were in the frame inner flange at fasteners common to the bulkhead support angle. One of the three cracks was also in the doubler.

We have received a report of a strap that was not installed on the frame at station 312 adjacent to stringer S-22R on a Model 737-400 series airplane with 24,037 total flight cycles. Investigation of the drawings determined that this was an incorrect frame configuration and that the strap should have been installed.

Missing fuselage frame straps and frame cracking can result in severed frames. Continued operation of the airplane with multiple adjacent severed frames, or the combination of a severed frame and fuselage skin chemical mill cracks, can result in uncontrolled decompression of the airplane.

Relevant Service Information

We reviewed Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013. For information on the procedures and compliance times, see this service information at <http://www.regulations.gov> by searching for and locating Docket No. FAA 2014-0346.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require an inspection to determine if the strap adjacent to a certain stringer is installed, and repair if missing; repetitive inspections of the frame for cracking or a severed frame web; and related investigative and corrective actions if necessary. This proposed AD also provides optional actions to terminate the repetitive inspections.

The phrase "related investigative actions" is used in this proposed AD. "Related investigative actions" are follow-on actions that (1) are related to the primary actions, and (2) further investigate the nature of any condition found. Related investigative actions in an AD could include, for example, inspections.

The phrase "corrective actions" is used in this proposed AD. "Corrective actions" are actions that correct or address any condition found. Corrective actions in an AD could include, for example, repairs.

Differences Between this Proposed AD and the Service Information

Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, specifies to contact the manufacturer for instructions on how to repair certain conditions, but this proposed AD would require repairing those conditions in one of the following ways:

- In accordance with a method that we approve; or
- Using data that meet the certification basis of the airplane, and that have been approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) whom we have authorized to make those findings.

Tables 13 through 15 in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, specify post-modification inspections at certain locations, which may be used in support of compliance with section 121.1109(c)(2) or 129.109(b)(2) of the Federal Aviation Regulations (14 CFR 121.1109(c)(2) or 129.109(b)(2)). However, this NPRM does not propose to require those post-modification inspections. This difference has been coordinated with Boeing.

Costs of Compliance

We estimate that this proposed AD affects 417 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspections	21 work-hours X \$85 per hour = \$1,785 per inspection cycle	\$0	\$1,785 per inspection cycle	\$744,345 per inspection cycle

We have received no definitive data that would enable us to provide cost estimates for certain on-condition actions specified in this proposed AD. However, we estimate the following costs to do any necessary repairs of the station 328 frame and the station 360 frame. We have no way of determining the number of aircraft that might need these repairs:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Frame 328 repair	25 work-hours X \$85 per hour = \$2,125	Negligible	\$2,125
Frame 360 repair	5 work-hours X \$85 per hour = \$425	Negligible	\$425

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This proposed regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

The Boeing Company: Docket No. FAA-2014-0346; Directorate Identifier 2014-NM-010-AD.

(a) Comments Due Date

We must receive comments by **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

(b) Affected ADs

None.

(c) Applicability

This AD applies to The Boeing Company Model 737-100, -200, -200C, -300, -400, and -500 series airplanes, certificated in any category, as identified in Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013.

(d) Subject

Air Transport Association (ATA) of America Code 53, Fuselage.

(e) Unsafe Condition

This AD was prompted by reports of cracks in fuselage frames, and a report of a missing strap that was not installed on a fuselage frame during production. We are issuing this AD to detect and correct missing fuselage frame straps and frame cracking that can result in severed frames. Continued operation of the airplane with multiple adjacent severed frames, or the combination of a severed frame and fuselage skin chemical mill cracks, can result in uncontrolled decompression of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Group 1 Airplane Actions

For airplanes identified as Group 1 in Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013: At the applicable time specified in Table 1 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, except as provided by paragraph (m)(1) of this AD, do the repair using a method approved in accordance with the procedures specified in paragraph (o) of this AD.

(h) Groups 2 through 7 Airplanes: Inspection for Strap Installation at Station 312

For airplanes identified as Groups 2 through 7 in Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013: At the applicable time specified in Tables 2 and 3 of Paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, except as provided by paragraph (m)(1) of this AD, do a general visual inspection of the frame at station 312 to determine if the strap adjacent to stringer S-22R is installed, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013. If the strap is not installed, before further flight, repair using a method approved in accordance with the procedures specified in paragraph (o) of this AD.

(i) Groups 2 through 6 Airplanes with Less than 28,300 Total Flight Cycles: Repetitive Inspections, Related Investigative Actions, and Corrective Actions at Stations 328, 344, and 360

For airplanes identified as Groups 2 through 6 in Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, that have accumulated less than 28,300 total flight cycles as of the effective date of this AD: Do the actions required by paragraphs (i)(1) and (i)(2) of this AD.

(1) At the applicable times specified in Tables 4, 5, 7, and 8 of Paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, except as provided by paragraph (m)(1) of this AD: Do detailed and eddy current inspections of the frame at stations 328, 344, and 360 for cracking or a severed frame web; and do all applicable related investigative and corrective actions; in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, except as specified in paragraph (m)(2) of this AD. Do all applicable related investigative and corrective actions before further flight. Repeat the applicable inspections thereafter at the applicable time and intervals specified in Paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, until the inspection required by paragraph (i)(2) of this AD is done. Doing the preventative modification of the frame at station 360 and the repair of the frame at station 328, as applicable, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, except as specified in paragraph (m)(2) of this AD, terminates the applicable repetitive inspection requirements of paragraph (i)(1) of this AD.

(2) At the applicable time specified in Tables 4, 5, 7, and 8 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, do the actions specified in paragraph (i)(2)(i) or (i)(2)(ii) of this AD. Accomplishing the initial inspections required by paragraph (i)(2) of this AD terminates the inspections

required by paragraph (i)(1) of this AD. Doing the preventative modification of the frame at station 360 and the repair of the frame at station 328, as applicable, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, except as specified in paragraph (m)(2) of this AD, terminates the applicable repetitive inspection requirements of paragraph (i)(2)(i) and (i)(2)(ii) of this AD.

(i) Do detailed and eddy current inspections of the frame at stations 328, 344, and 360 for cracking or a severed frame web; and do all applicable related investigative and corrective actions; in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, except as specified in paragraph (m)(2) of this AD. Do all applicable related investigative and corrective actions before further flight. Repeat the inspections specified in this paragraph thereafter at the applicable time and intervals specified in paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013.

(ii) Do detailed and eddy current inspections of the frame at stations 328, 344, and 360 for cracking or a severed frame web; and external detailed and eddy current inspections of the fuselage skin for cracking; and do all applicable related investigative and corrective actions; in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, except as specified in paragraph (m)(2) of this AD. Do all applicable related investigative and corrective actions before further flight. Repeat the applicable inspections thereafter at the applicable time and intervals specified in Paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013.

(j) Groups 2 through 6 Airplanes with 28,300 Total Flight Cycles or More: Repetitive Inspections, Related Investigative Actions, and Corrective Actions at Stations 328, 344, and 360

For airplanes identified as Groups 2 through 6 in Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, that have accumulated 28,300 total flight cycles or more as of the effective date of this AD: At the applicable times specified in Tables 4, 5, 7, and 8 of Paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, except as provided by paragraph (m)(1) of this AD, do the inspections specified in paragraphs (j)(1) or (j)(2) of this AD; and do all applicable related investigative and corrective actions; in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, except as specified in paragraph (m)(2) of this AD. Do all applicable related investigative and corrective actions before further flight. Repeat the applicable inspections specified in paragraphs (j)(1) or (j)(2) of this AD thereafter at the applicable time and intervals specified in Paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013. Doing the preventative modification of the frame at station 360 and the repair of the frame at station 328, as applicable, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, except as specified in paragraph (m)(2) of this AD, terminates the applicable repetitive inspection requirements of this paragraph.

(1) Do detailed and eddy current inspections of the frame at stations 328, 344, and 360 for cracking or a severed frame web.

(2) Do detailed and eddy current inspections of the frame at stations 328, 344, and 360 for cracking or a severed frame web; and external detailed and eddy current inspections of the fuselage skin for cracking.

(k) Group 7 Airplanes: Repetitive Inspections, Related Investigative Actions, and Corrective Actions at Station 328

For airplanes identified as Group 7 in Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013: At the applicable time specified in Table 6 of Paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, except as provided by paragraph (m)(1) of this AD, do a detailed inspection of the frame at station 328 for cracking or a severed frame web; and do all applicable related investigative and corrective actions; in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, except as specified in paragraph (m)(2) of this AD. Do all applicable related investigative and corrective actions before further flight. Repeat the inspections specified in this paragraph thereafter at the applicable time and intervals specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013. Doing the repair of the frame at station 328, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, except as specified in paragraph (m)(2) of this AD, terminates the repetitive inspection requirements of this paragraph.

(l) Groups 2 through 5 Airplanes: Repetitive Inspections, Related Investigative Actions, and Corrective Actions at Station 380

For airplanes identified as Groups 2 through 5 in Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013: At the applicable time specified in Tables 9 and 10 of Paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, except as provided by paragraph (m)(1) of this AD, do detailed and eddy current inspections of the frame at station 380 for cracking or a severed frame web; and do all applicable corrective actions; in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, except as specified in paragraph (m)(2) of this AD. Do all applicable corrective actions

before further flight. Repeat the inspections specified in this paragraph thereafter at the applicable time and intervals specified in Paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013.

(m) Exceptions to Service Information

(1) Where Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, specifies a compliance time after the “original issue date of this service bulletin,” this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) If any cracking is found during any inspection required by this AD, and Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, specifies to contact Boeing for appropriate action: Before further flight, repair the cracking using a method approved in accordance with the procedures specified in paragraph (o) of this AD.

(n) Post-Repair Inspections and Post-Modification Inspections

The post-repair and post-modification inspections specified in Tables 13 through 15 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, are not required by this AD.

Note 1 to paragraph (n) of this AD: The post-repair and post-modification inspections specified in Tables 13 through 15 of paragraph 1.E., “Compliance,” of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, may be used in support of compliance with section 121.1109(c)(2) or 129.109(b)(2) of the Federal Aviation Regulations (14 CFR 121.1109(c)(2) or 14 CFR 129.109(b)(2)). The corresponding actions specified in the Accomplishment Instructions of Boeing Alert Service Bulletin 737-53A1323, dated December 6, 2013, are not required by this AD.

(o) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (p)(1) of this AD. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization that has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(p) Related Information

(1) For more information about this AD, contact Alan Pohl, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6450; fax: 425-917-6590; email: alan.pohl@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may view this referenced service information at the

FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on June 19, 2014.

Michael Kaszycki,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

BILLING CODE 4910-13-P

[FR Doc. 2014-15251 Filed 06/27/2014 at 8:45 am; Publication Date: 06/30/2014]